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所引用双字母代码和其它缩写符号, 请参考刊登在每期PCT公报期刊起始的“代码及缩写符号简要说明”。

(54) Title: PREPARATION OF SOLID AMMONIUM GLYPHOSATE USING ORGANIC SOLVENT IN EXTRACTION

(54) 发明名称: 用有机溶剂萃取制备固体草甘膦酸铵的方法

(57) Abstract: A method of producing ammonium glyphosate suitable for preparation of water-soluble solid preparation through a gas-liquid-solid reaction system and an extraction with organic solvent is that to a reactor with a stirrer, glyphosate acid and water are charged and then ammonia gas is fed for reaction. After the reaction, ammonium glyphosate aqueous is formed. Water-soluble organic solvent, such as methanol and/or ethanol and/or formal, is added to the aqueous to decrease the solvability of ammonium glyphosate in the system and separate out the ammonium glyphosate crystal. Solid ammonium glyphosate is obtained after filtrating or drying the crystal more. The organic solvent can be recycled and used repeatedly by distillation and the residual solution can be returned to react with ammonia gas or be prepare the ammonium glyphosate salt solution.

(57) 摘要

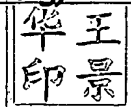
一种气—液—固三相反应及溶剂萃取制备可用于制备可溶性固体制剂的草甘膦酸铵的方法, 该方法为在带搅拌的反应器中加入草甘膦酸和水, 再通入氨气反应; 反应完全后成草甘膦酸铵水溶液, 通过往反应液中加入能溶于水的有机溶剂如甲醇和/或乙醇和/或甲缩醛等的方法减少草甘膦酸铵在该体系中的溶解度, 从而结晶析出, 经抽滤或进一步进行烘干得固体草甘膦酸铵。其中加入体系的有机溶剂通过蒸馏得方法回收并重复使用, 分离溶剂后的残液可以返回进行通氨反应或配制草甘膦酸铵盐水剂。

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN03/00747

A. CLASSIFICATION OF SUBJECT MATTER		
C07F 9/38		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
IPC7 C07F		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
CPRS EPODOC WPI PAJ CA CNKI		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CN1340508A(ZHEJIANG XINAN CHEMICAL INDUSTRIAL GROUP CO.,LTD.) 2002-03-20-----examples 1-17, and especially examples 2 and 17	1-12
A	CN1365254A(MONS) 2002-08-21 -----THE WHOLE DOCUMENTS	1-12
A	CN1365255A(MONS) 2002-08-21 -----THE WHOLE DOCUMENTS	1-12
A	CN1068008C(MONS) 2001-07-04 -----THE WHOLE DOCUMENTS	1-12
A	CN1192743A(MONS) 1998-09-09 -----THE WHOLE DOCUMENTS	1-12
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
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"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	
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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN03/00747

Patent document cited In search report	Publication date	Patent family member(s)	Publication date
CN 1340508A	2002-03-20	NONE	
CN 1365254A	2002-08-21	WO0108492A1	2001-02-08
		BR200013186A	2002-04-02
		AU200064970A	2001-02-19
		EP1199933A1	2002-05-02
		CZ200200254A3	2002-07-17
		KR2002029079A	2002-04-17
		HU200202878A2	2002-12-28
		JP2003505481T	2003-02-12
CN 1365255A	2002-08-21	EP1199932A1	2002-05-02
		WO0108491A1	2001-02-08
		AU200063781A	2001-02-19
		BR200012841A	2002-05-07
		CZ200200253A3	2002-08-14
		KR2002029077A	2002-04-17
		HU200202390A2	2002-11-28
		JP2003505480T	2003-02-12
CN 1068008C	2001-07-04	CA2221299A	1996-12-19
		WO9640697A	1996-12-19
		AU5419596A	1996-12-30
		ZA9604774A	1997-01-08
		US5633397A	1997-05-27
		EP0832086A	1998-04-01
		CN1192742A	1998-09-09
		CN1068008C	2001-07-04
		JP10511688T	1998-11-10
		NZ306043A	1998-12-23
		HU9802088A	1998-12-28
		AU704518B	1999-04-22
		BR9608561A	1999-07-06
		KR257283B	1999-07-06
		IL118576A	2000-09-28
		AT196908T	2000-10-15
		DE69610629D	2000-11-16

Best Available Copy

		ES2152019T	2001-01-16
		JP3126032B2	2001-01-22
		RU2164518C	2001-03-27
		DE69610629T	2001-05-03
<hr/>			
CN1192743A	1998-09-09	CA2221298A	1996-12-19
		WO9640696A	1996-12-19
		AU5662096A	1996-12-30
		ZA9604775A	1997-01-08
		US5614468A	1997-03-25
		US5716903A	1998-02-10
		EP0845000A	1998-06-03
		JP10507467T	1998-07-21
		AU694877B	1998-07-30
		NZ307310A	1999-01-28
		HU9802333A	1999-02-01
		BR9608562A	1999-07-06
		JP2963543B2	1999-10-18
		KR266126B	2000-09-15
		RU2164519C	2001-03-27
		IL118577A	2001-05-20
		AT201210T	2001-06-15
		DK845000T	2001-06-18
		DE69612857D	2001-06-21
		ES2157441T	2001-08-16
		PT845000T	2001-09-28
		GR3036355T	2001-11-30
		DE69612857T	2002-03-28

Form PCT/ISA/210 (patent family annex) (July 1998)

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